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REMARKS

Reconsideration of the above identified application is respectfully requested.

The specification has been amended at paras. 16 & 35 to correct spelling errors, and at para. 33 to delete an extraneous word and conform to the remainder of the specification. And, para. 10 has been amended to insert the corresponding issued patent.

Claim 11 has been amended to remove the extraneous reference numeral; and withdrawal of the objection thereto is therefore warranted and requested.

Applicants note the substantial breadth of interpretation of Applicants' claims being proffered by the examiner, which correspondingly enlarges claim scope in later infringement analysis of the file wrapper. However, the examiner has failed to afford due weight to specific features and cooperation of features which distinguish over the applied art.

Applicants traverse the rejection of claims 1-4 and 11-14 under Section 102(b) over Hall et al.

Independent claims 1 & 11 recite the thermal shield 38 spaced from the nose bridge 36 to define the bridge channel 40 therebetween.

The examiner's use, inter alia, of the leading edge portion 14, chamber 28, and unidentified "convex nose bridge" of Hall fails to meet the stringent requirements under Section 102; and fails to afford due weight to express claim language.

Chamber 28 in Hall is like correspondingly named chambers 24 & 20 disposed therebehind, and is independent of plenums 34 & 46 and slots 40 & 48.

Note, in particular, that the struts 50 prevent flow communication between chamber 28 and plenums 34 & 46, and,

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therefore, Hall fails to disclose Applicants' claims as required under Section 102.

However, as an accommodation to the examiner's broad interpretation of the recited claim features, similar features from claims 2 & 12 have been correspondingly moved to independent claims 1 & 11.

More specifically, the bridge channel 40 includes the slot outlets 44,46 disposed between the shield 38 and nose bridge 36 along the pressure and suction sides.

This configuration is in stark contrast with Hall in which the chamber 28 is not connected to the slots 40,48, but instead uses the openings 30 at the leading edge only.

The additional features recited in rejected claims 1-4 and 11-14 cooperate with the thermal shield to cool the airfoil in combinations lacking the requisite identity of features, function, and cooperation rendering the Section 102 rejection without evidentiary basis.

Accordingly, withdrawal of the rejection of claims 1-4 and 11-14 under Section 102(b) over Hall et al is warranted and is requested.

Applicants traverse the omnibus rejection of all claims 1-22 under Section 103(a) over Lee '499 and Hall et al.

Firstly, the examiner admits some of the many fundamental shortcomings of Lee '499; including that "Lee does not disclose the use of a nose bridge and shield." This key shortcoming appears to be sufficient in and of itself to render any combination under Section 103 with secondary references against the fundamental teachings of the Lee reference itself.

The examiner then attempts to use the Hall reference using the same erroneous interpretation thereof as found in the Section 102 rejection. This compounds the error of rejection.

And, the examiner's reason to combine is overly

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simplistic and fails to meet the stringent requirements of MPEP 706.02(j) and the legal motivation requirement of ch. 2100.

That "the mesh arrangement of cooling holes is ideal for any film cooling hole application" is taken out of context and out of meaning by the examiner, without regard to the specific problems in Lee '499 and Hall; and without regard to the different cooling configurations therein.

Is the examiner modifying the Lee '499 structure, or the Hall structure?

Should the leading edge features of Hall be simply added to the front of the plain leading edge of Lee '499, and if so, of what relevance to that combination are the mesh configurations at the several rows of holes 40 in Lee '499?

Should the mesh configurations of Lee '499 simply be added to or substituted for features in Hall, and what is that combination?

The leading edge in Lee '499 is quite plain without any cooling holes shown therein in any form. The rows of holes 40 are spaced well back of the leading edge along both the pressure and suction sides of the airfoil.

Hall, in contrast to Lee '499, has a specifically complex leading edge configuration, including many features such as the many holes 26, 30, 32, 40, 42, and 44. Should any of those holes be substituted by the mesh configurations of Lee '499, and why?

Clearly, the examiner has failed to address each claim on the merits, and provide the requisite evidence to support the various rejections thereof.

The simplistic attempt to combine Hall with Lee '499 lacks what that combination would entail, what problems are being solved, and legal motivation.

That mesh holes might be ideal for film cooling is overly simplistic, and disregards the fundamental differences

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of those two types of holes; and where they might be used; and how they might be used; and for what benefit; and for what detriment since blade cooling art always involves compromises of many types from mechanical, stress, thermal, and aerodynamic, to name a few.

And, quite significant in the examiner's rejection of all twenty-two claims is the failure to recognize that the struts 50 in Hall disconnect the chamber 28 from the two plenums 34,46 and the corresponding slots 40,48.

Accordingly, the examiner has failed to establish even a prima facie rejection of the various claims and their various combinations for the various benefits disclosed in the specification.

And, as indicated above, claims 1 & 11 have been similarly amended to introduce therein the slot outlets 44,46 for the bridge channel 40 previously recited in claims 2 & 12.

Any combination of Lee '499 and Hall would surely include those fundamental struts 50 of Hall which clearly teach away from Applicants' claims.

And, the various dependent claims add additional features in different combinations having no nexus in Lee '499 and Hall, and the examiner has not shown otherwise in the mere listing of features in para. 7 of the office action without regard to the specificity requirements of the MPEP.

Accordingly, withdrawal of the rejection of claims 1-22 under Section 103(a) over Lee '499 and Hall et al is warranted and is requested.

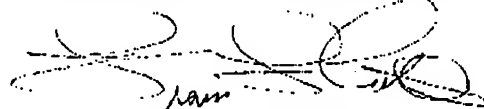
In accordance with the duty imposed by 37 CFR 1.104 and MPEP sections 707, 707.05, 707.07, and 707.07(g), the examiner is requested to reconsider all the art of record, including the additional references not applied, to ensure full compliance with the required thoroughness of examination.

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In re Portola Packaging, Inc., 42 USPQ2d 1295 (Fed. Cir. 1997) emphasizes the importance of complying with this duty to ensure that all references of record have been fully considered by the examiner in the various combinations thereof. And, the Board of Appeals has further elaborated on the importance of this examiner duty in Ex parte Schricker, 56 USPQ2d 1723 (B.P.A.I. 2000).

In view of the above remarks, allowance of all claims 1-22 over the art of record is warranted and is requested.

Respectfully submitted,



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